

YuShin, V. V., Cand Tech Sci — (diss) "Determination of the parameters of the internal process of impact-type pneumatic mining machines by electrical measurements," Dnepropetrovsk, 1960, 15 pp (Dnepropetrovsk Mining Institute imeni Artem)  
(KL, 40-60, 123)

YUSHIN, V.V., inzh.

Research on the parameters of the internal process of the percussion action in pneumatic machines. Izv.vys.ucheb.zav.; gor.zhur. no.2: 113-116 '60. (MIRA 14:5)

1. Dnepropetrovskiy gornyy institut.  
(Rock drills)

YUSHIN, Vadim Viktorovich; BELOV, V.S., red.izd-va; MESHCHANKINA, I.S.,  
tekhn. red.

[Using electric measuring methods to study pneumatic mining  
machinery] Issledovanie shakhtnykh pnevmomashin elektricheskimi  
metodami izmereniia. Moskva, Gosgortekhzdat, 1963. 55 p.  
(MIRA 16:5)

(Mining machinery--Pneumatic driving)

YUSHIN, V. A. V., ed.

Vysokoproizvoditel'nye metody svarki v nefianoi promyshlennosti /Highly productive methods of welding in the petroleum industry/. Moskva, Gostoptekhnizdat, 1952. 296 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 5, August 1953

KOMAROV, Dmitriy Illarionovich; YUSHIN, Vladimir Alekseyevich; MOROZOVA,  
I.I., red.; KISINA, Ye.I., tekhn. red.

[Planning in a fishing collective] Planirovanie v rybolovetskom  
kolkhoze. Moskva, Pishchepromizdat, 1960. 175 p. (MIRA 14:7)

(Fisheries)

YUSHIN, V.A.; MUNTIAN, V.M., spets.red.; NOZDRINA, V.A., red.; KISINA,  
Ye.I., tekhn. red.

[The technical, industrial, and financial plan of a fish-  
processing plant; methods of compilation] Tekhpromfinplan rybozavoda;  
metodika sostavleniia. Moskva, Fishchepromizdat, 1961. 138 p.  
(MIRA 14:7)

(Fish processing plants)

BELOUS, N.Kh., st. nauchn. sotr.; KAZANSKIY, Yu.P.; VDOVIN, V.V.;  
 KLYAROVSKIY, V.M.; KUZNETSOV, V.P.; NIKOLAYEVA, I.V.;  
 NOVOZHILOV, V.I.; SENDERZON, E.M.; AKAYEV, M.S.; BABIN,  
 A.A.; BERDNIKOV, A.P.; GORYUKHIN, Ye.Ya.; NAGORSKIY, M.P.;  
 PIVEN', N.M.; BAKANOV, G.Ye.; GEBLER, I.V.; SMOLYANINOV,  
 N.M.; SMOLYANINOVA, S.I.; YUSHIN, V.I.; D'YAKONOVA, N.D.;  
 REZAPOV, N.M.; KASHTANOV, V.A.; GOLDBERT, A.V.; SIDOROV,  
 A.P.; GARMASH, A.A.; BYKOV, M.S.; BORODIN, L.V.; RYCHKOV,  
 L.F.; KUCHIN, M.I.; SHAKHOV, F.N., glav. red.; SHPAKOVSKAYA,  
 L.I., red.

[West Siberian iron ore basin] Zapadno-Sibirskii zhelezorud-  
 nyi bassein. Novosibirsk, Red.-izd. otdel Sibirskogo otd-  
 nia AN SSSR, 1964. 447 p. (MIRA 17:12)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut geo-  
 logii i geofiziki. 2. Institut geologii i geofiziki Sibirskogo  
 otdeleniya AN SSSR (for Belous, Kazanskiy, Vdovin, Klyarovskiy,  
 Kuznetsov, Nikolayeva, Novozhilov, Senderzon). 3. Institut  
 gornogo dela (for Akayev). 4. Novosibirskoye geologicheskoye  
 upravleniye Ministerstva geologii i okhrany neдр SSSR (for  
 Babin, Berdnikov, Goryukhin, Nagorskiy, Piven').  
 (Continued on next card)

BELOUS, N.Kh.---(continued). Card 2.

Tomskiy politekhnicheskii institut (for Bakanov, Goltser, Smolyaninov, Smolyaninova). 5. Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya (for Yushin, D'yakonova, Rezapov, Kashtanov, Gol'bert). 6. Institut ekonomiki sel'skogo khozyaystva (for Garmash). 7. Sibirskiy metallurgicheskii institut (for Bykov, Borodin, Rychkov). 8. Tomskiy inzhenerno-stroitel'nyy institut (for Kuchin). 9. Chlen-korrespondent AN SSSR (for Shakhov).



YUSHIN, Ya. V.

Neftyanoye oborudovaniye: Spravochnik, pod red. (Oil Field Equipment:  
A Handbook, under the editorship of Ya. V. Yushin), Vol III: Otorudovaniye i  
instrument dlya ekspluatatsii skvazhin (Equipment and Tools for Producing Wells),  
Moscow-Leningrad, 1951.

SOLOV'YEV, L.D.; YUSHIN, Yu.Ya.

Infrared characteristics of matrix elements in scalar electrodynamics. Zhur. eksp. i teor. fiz. 45 no.4:1202-1207 0 '63.  
(MIRA 16:11)

1. Ob"yedinennyy institut yadernykh issledovaniy i Matematicheskiiy institut AN SSSR.

3238-65 ZWT(1)/EEU(1) PI-4 JLP(4) GO S/0056/65/048/002/0691/0694  
 ACCESSION NR: AP5006519 16  
 17  
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AUTHOR: Yushin, Yu. Ya.

TITLE: On the infrared characteristics of the vertex part in quantum electrodynamics

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 2, 1964, 691-694

TOPIC TAGS: quantum electrodynamics, infrared characteristics, vertex part

ABSTRACT: The infrared characteristics of the form factors of electron charge and additional magnetic moment are calculated in the fifth and seventh orders in perturbation theory. It is found that if the vertex part belongs to the matrix element of electron scattering in an external field, the magnitude of  $\beta(t)$  is positive in the physical region  $t < 0$ .

$$\Gamma^{\mu}(p^2, t) = \left( \frac{m^2 - p^2}{2m^2} \right)^{\beta(t)} (\hat{p}_2 + m) \times$$

$$\times \left\{ B_1(t) \hat{\gamma}^{\mu} + \frac{1}{4m} B_2(t) (\hat{p}_2 - \hat{p}_1, \gamma^{\mu}) \right\} (\hat{p}_1 + m),$$

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1. L-43728-65  
ACCESSION NR: AP5006519

then results in returning the matrix element to zero for  $\lambda \rightarrow 0$ . Physically this corresponds to the impossibility of electron scattering at a non-zero angle without radiation of real photons. "In conclusion the author expresses deep gratitude to L. D. Solov'yev for the subject proposed for study, and useful discussions." Orig. art. has: 17 formulas.

ASSOCIATION: Matematicheskii institut imeni V. A. Steklova, Akademii nauk SSSR  
(Mathematics Institute, Academy of Sciences USSR)

SUBMITTED: 17Aug64

ENCL: 00

SUB CODE: EM, OP

NO REF SOV: 003

OTHER: 003

ML  
Card 2/2

YUSHINA, A. G.

Theory, design and computation of locomobiles. Moskva, Gos. nauchno-tekhn izd-vo mashinostroit. lit-ry, 1952. 602 p. (53-19523)

TJ700.337

YUSHINA, G. I.

YUSHINA, G. I. -- "Materials on the Early Detection of Osteous Tuberculosis in Children." Tashkent State Med Inst imeni V. M. Molotov, Tashkent, 1955. (Dissertations for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis', No. 39, 24 Sept 55

YOSHINA, G.I.

Early diagnosis of osteoarticular tuberculosis in children. Probl.  
tub. no.1:3-6 Ja-F '55. (MIRA 8:4)

1. Iz Uzbekskogo nauchno-issledovatel'skogo tuberkuleznogo instituta  
(dir. prof. Sh.A.Alimov)  
(TUBERCULOSIS, OSTEOARTICULAR, in infant and child,  
diag., early)

YUSHINA, G.I., kand.med.nauk; SHAPOSHNIKOVA, K.N.

Combined antibacterial and immunological treatment of bone tuberculosis. Sbor. trud. Uz. nauch.-issl. tub. inst. 3:17-24 '57.  
(MIRA 14:5)

(BONES—TUBERCULOSIS)



YUSHINA, G.I., kand.med.nauk; AGZAMOV, R.A., kand.med.nauk; SHCHITOVA, N.H.,  
vrach

Clinical, roentgenological, and morphological aspects of gonitis  
tuberculosa. Med. zhur. Uzb. no.12:17-25 D '61. (MIRA 15:2)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta tuberkuleza  
(direktor - prof. Sh.A.Alimov) i Respublikanskogo detskogo kostno-  
tuberkuleznogo sanatoriya imeni N.K.Krupskoy (glavnyy vrach -  
Kh.I.Yusupova).

(KNEE—TUBERCULOSIS)

YUSHINA, G. I., kand. med. nauk

Deformations and arthroses in the initial forms of osteoarticular tuberculosis. Probl. tub. 40 no.5:67-71 '62.  
(MIRA 15:7)

1. Iz Uzbekskogo nauchno-issledovatel'skogo instituta tuberkuleza  
(dir. - prof. Sh. A. Alimov)

(BONES--TUBERCULOSIS)  
(JOINTS--TUBERCULOSIS)

YUSHINA, Galina Ivanovna, kand.med.nauk; KHODANOVICH, L.B., red.;  
TSAY, A.A., tekhn. red.

[How osteoarticular tuberculosis starts] Kak nachinaetsia  
kostno-sustavnoi tuberkulez. Tashkent, Medgiz UzSSR, 1962.  
26 p. (MIRA 15:7)  
(BONES--TUBERCULOSIS) (JOINTS--TUBERCULOSIS)

USSR/Human and Animal Morphology. Blood and Hematopoietic  
Organs.

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69615.

Author : Yushina, G.N.  
Inst : Tomsk Medical Institute, Tomsk University.  
Title : The Diameter of Erythrocytes Following Total  
Gastrectomy.

Orig Pub: 5-y Pavlovsk. sb. Tomskiy med. in-t, Tomsk. Un-t,  
1956, 143-146.

Abstract: Studies were made of the diameter of erythrocytes  
(E) in 17 persons six months to eight years after  
total gastrectomy and in seven patients with  
agastric pernicious anemia. It was shown that  
with increasing lapses of time following gastrectomy,  
the Price-Jones curve had a tendency to shift to the

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USSR/Human and Animal Morphology. Blood and Hematopoietic  
Organs.

Abs Jour: Ref Zhur-Biol., No 15, 1958, 69615.

right. Within two years the average diameter of  
E reached 7.92-8.45 microns, and the total per-  
centage of macrocytes increased to 42-74. By four  
to six years the diameter of E stabilized at 8.5  
microns, and there was a shift of the curve to the  
right to 11.2-12 microns. With agastric pernicious  
anemia, the average red cell diameter was 8.67 - 9.47  
microns, the shift of the curve to the right was to  
13.3 microns, and the percentage of macrocytes  
was 70.93.

Card : 2/2

YUSHINA, G.N.

Effect of arterial hypoxemia in pulmonary emphysema on capillary permeability. Terap.arkh. 33 no.10:103-105 '61. (MIRA 15:1)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav. - prof. B.M. Shershevskiy) Tomskogo meditsinskogo instituta.  
(EMPHYSEMA, PULMONARY) (ANOKEMIA)  
(CAPILLARIES—PERMEABILITY)

Distr. 4E2c

✓ Cathode processes during deposition of boron from molten electrolytes. M. A. Gerasimov, T. L. D. Yachina, *Izv. Akad. Nauk SSSR, Khim. Nauk*, 1986, 11, 1528-1531. —Electrolysis of molten electrolytes is often characterized by a high temp. reducing or dissolving the difficulties of ion-discharge on the cathode. The object of the present work is to attain the min. temp. for electrolysis of molten electrolytes on chlorides of high melting point. The aim of the experiment was the analysis of the processes at the cathode in the electrolysis of boron and fluoride electrolytes containing alkali and alkaline metals. A Mo cathode is used in the electrolysis. It has been tested at 800, 700 and 600° in molten electrolytes containing 0.18, 2.6 and 27.6 wt % boron. The electrolysis was carried out at 10<sup>-2</sup>–4 amp/cm<sup>2</sup> and 0.01 amp/cm<sup>2</sup> at a relatively low d.c. 0.01 amp/cm<sup>2</sup> in the electrolysis of the electrolyte on the cathode. The separation of boron from the electrolyte was observed when the concn. of the Tl<sup>+</sup> ions was approx. 10<sup>-2</sup> mol/l. The value of the diffusion current was approx. 0.01 amp/cm<sup>2</sup>. The separation is constant. At a low concn. of the electrolyte (0.01) results in separation of alkali metals. When the concn. of the electrolyte is a quantity equivalent to 0.01, the separation of metal can be increased.

63

YUSHINA, L.D., Cand Chem Sci--(diss) " Cathode precipitation and  
anode diffusion of metallic thorium in salt fusions." Sverdlovsk,  
1956 (cover 1958), 12 pp (Acad Sci USSR. Ural Affiliate. Inst of  
Chemistry), 100 copies (KL,22-58,103)

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Yushina, L. D.

20-5-27/54

AUTHORS: Yushina, L. D., ~~Saizov~~, M. V.

TITLE: The Anodic Solution of Thorium in Salt Melts  
(Anodnoye rastvoreniye toriya v solevykh rasplavakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 5, pp. 949-952  
(USSR)

ABSTRACT: There are no technical data available in publications dealing with the study of the anodic dissolution of metals in both theoretically and practically interesting salt melts. The present paper deals with the solution of thorium chlorides of alkaline metals. After describing the special experimental cell (fig. 1), the test conditions are described. The thorium anode was measured within the wide range of current density of from  $2 \cdot 10^{-3}$  to  $8 \text{ A/cm}^2$  at a potential of  $-2,558 / 710^5$  and of  $-2,524 / 8150$ . With a prescribed amperage 3 to 4 seconds were sufficient to produce a steady potential. Polarization measurements were begun when the thorium electrode had shown a constant potential in the molten equimolar initial mixture of both the sodium and potassium chloride. The values of the potentials are given above. The results are represented in

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...per charge cur-  
...the alkali metal. The dif-  
...ions begins to react on anode polari-

20-5-27/54

## The Anodic Solution of Thorium in Salt Melts

zation as soon as the current density exceeds  $0,05 \text{ A/cm}^2$ , and when the reaction of displacement and reduction of the alkali ions is suppressed by metallic thorium. It can be presumed that the thorium converting into the electrolyte diffuses in the space of the melt, viz. chiefly in form of binary ions. This assumption is supported by a fine suspension for metallic thorium which is formed in the electrolyte, provided that the oxygen contained in the air has been kept away. Analogous equations are derived for the anodic current density and  $\eta$ . The polarization curves are displaced in the case of increased temperature in the direction of more positive potentials. Beyond  $1 \text{ A/cm}^2$  the anode potential rises much more quickly with the current density at  $710^\circ$  (and beyond  $1,5 \text{ A/cm}^2$  at  $815^\circ \text{C}$ ) than it should be the case with the equation derived in this respect. Yet, the test shows in fact that the presumption of an invariable thickness of the diffusion layer  $\delta$  only proves true in the case of relatively low concentrations. The thickness of the diffusion layer in the range of higher concentrations apparently ceases to be a constant quantity and it begins to grow rapidly in case of increasing current density. This leads subsequently to a decline of the velocity of dif-

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## The Anodic Solution of Thorium in Salt Melts

20-5-27/54

fusion, i.e. to an increased concentration of the thorium ions in the electrolyte layer close to the electrodes and to a corresponding increase of the anode potential. As soon as the concentration of thorium chloride approaches 100 % in the electrolyte layer near the anode, the anode potential reaches a value which is near the potential of equilibrium of thorium in its own chloride ( $-2,204$  at  $710^{\circ}$  and  $-2,089$  at  $815^{\circ}$ ). Thus only  $\text{Th}^{2+}$  ions practically pass over into the electrolyte, even at relatively high current densities. In this case a polarization of concentration is observed. The situation changes in the case of the electrolysis of molten thorium tetrachloride which, on the whole, shows anodic conductivity. In this case the reaction of reduction is suppressed already at low anodic current densities. The dissolution of the metal takes place without a substantial polarization. This phenomenon was exploited by the authors in a previous work for the determination of the decomposition tension of molten thorium tetrachloride. There are 2 figures and 3 Slavic references.

Card 4/5

4

*Ural Affil, AS USSR*

SMIRNOV, M.V.; IVANOVSKIY, L.Ye.; YUSHINA, L.D.

Equilibrium potentials of metals in molten salts.  
Trudy Inst. khim. UFAN SSSR no.2:153-159 '58.

(MIRA 12:12)

(Electrometallurgy)

67024

SOV/137-59-10-21896

5.1310(A)

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 10, p 92 (USSR)

AUTHORS: Smirnov, M.V., Yushina, L.D., Ivanovskiy, L.Ye.

TITLE: Deposition of High-Melting Metals<sup>4</sup> From Molten Electrolytes

PERIODICAL: Tr. in-ta khimii, Ural'skiy fil. AS USSR, 1958, Nr 2, pp 161 - 170

ABSTRACT: The authors investigated processes which take place on a Me-cathode in electrolysis of chloride and chloride-fluoride smelts, containing  $\text{Th}$ ,  $\text{Be}$ ,  $\text{Zr}$ ,  $\text{Ti}$  and other metals. It is shown that electrolysis of molten metallic salts is accompanied with an overcharge on the cathode of ions of conventional to lowest valencies. This is the cause for the existence of residual currents, which entail reduced cathode yield per current in electrolyzers without diaphragms or in open baths. In closed electrolyzers with diaphragms the yield per current increases. The structure of the cathode deposit (dimension and cohesion of particles) depends on the presence of suspended submicroscopic particles of oxycompounds in the electrolyte. During the formation of crystalline deposits true  $D_k$  increases, with higher current intensity of electrolysis, considerably slower than the rated value, calculated from the geometrical surface of

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Deposition of High-Melting Metals From Molten Electrolytes

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the initial cathode. When the limiting diffusion current of ion discharge of the metal obtained from mixed electrolytes is attained, the cathode potential increases rapidly up to a magnitude where the joint separation of alkali metals begins. The yield per current decreases sharply during the joint deposition of alkali metals.

G.S.

Card 2/2

67627

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SOV/81-59-14-50262

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, p 322 (USSR)

AUTHORS: Smirnov, M.V., Chukreyev, N.Ya., Yushina, L.D.

TITLE: The Anode Dissolution and Self-Dissolution (Corrosion) of Beryllium and Thorium in Molten Chlorides of Alkali Metals

PERIODICAL: Tr. in-ta khimii Ural'skiy fil. AS USSR, 1958, Nr 2, pp 171 - 176

ABSTRACT: The behavior of Be and Th in smelts has been studied. The anode dissolution of metals is accompanied by a high concentration polarization. Be passes into the smelt mainly in the form  $\text{Be}^+$  and partially in the form  $\text{Be}^+$  [sic!]. Th is dissolved mainly in the form of the subion  $\text{Th}^+$ , which intensifies the destructive action of the smelt on the lining.  $D_a \leq 0.1 \text{ a/cm}^2$ , or the admixtures pass into the smelt. The corrosion of Th, Be, Zr and Ti has an electrochemical nature and proceeds with the formation of subions of alkali metals.

K. Krivolutskiy

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YUSHINA, L. D.

79-1-60/63

AUTHOR: Yushina, L. D.

TITLE: The Electrolytic Reduction of Thorium Tetrachloride in Salt Melts (Elektroliticheskoye vosstanovleniye tetrakhlorida toriya v solevykh rasplavakh)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 1, pp. 272-276 (USSR)

ABSTRACT: Until recently it was assumed that only tetravalent thorium compounds exist. In order to find a regular connection with the periodic system of elements, thorium compounds with lower valences were sought. Beside the synthesis from elements syntheses of the metal with tetrahalides (references 1 - 3) were also described in the publications of recent years. The low compounds of thorium are extremely reactive and also are strong reducing agents. They decompose the glass walls under formation of compounds of the type  $\text{ThOX}_3$ , react with water under formation of  $\text{Th}^{4+}$  and on that occasion develop hydrogen. In a preceding paper on cathode processes in the electrolysis of chloride melts containing  $\text{Th}^{4+}$ -ions it was found that the low thorium chlorides are intermediate products in

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79-1-60/63

## The Electrolytic Reduction of Thorium Tetrachloride in Salt Melts

the electrolytic metal-production. The elimination of thorium in the electrolysis does not take place at once, but only after a certain "critical" quantity of the cathode current density had been attained. At a current density below this maximum limit only a jumping over of the ion charge from  $\text{Th}^{4+}$  to  $\text{Th}^{2+}$  and  $\text{Th}^{3+}$  takes place. Thus low thorium chlorides can be obtained electrolytically with low current densities from salt melts in an electrochemical way. It was of interest to find out under which conditions the electrochemical reduction of thorium in salt melts takes place and it was also important to investigate the properties of an electrolyte which disposes of a large quantity of low-valent thorium ions. Melts with  $\text{Th}^{2+}$  and  $\text{Th}^{3+}$ -ions are strong reducing agents. The authors investigated the electrolytic reduction of thorium tetrachloride at  $700^\circ\text{C}$  in melts of the chlorides of alkaline metals containing 16,1 %  $\text{ThCl}_4$ . It was found that the low-valent thorium does not only energetically act upon silicate products such as quartz, glass, porcelain, etc., but also upon metals (Pt and Ta) under the formation of its alloys. There are 2 figures, and 5 references, 2 of which are Slavic.

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The Electrolytic Reduction of Thorium Tetrachloride in Salt Melts 79-1-60/63

ASSOCIATION: Ural Branch AN USSR  
(Ural'skiy filial Akademii nauk SSSR)

SUBMITTED: December 27, 1956

AVAILABLE: Library of Congress

Card 3/3

1. Chemistry 2. Thorium compounds-Electrolysis



5(4)

AUTHORS:

Smirnov, M. V., Yushina, L. D.

SOV/62-59-2-10/41

TITLE:

Equilibrium Potentials of Metals in Molten Electrolytes  
(Ravnovesnyye potentsialy metallov v rasplavlennykh  
elektrolitakh) Communication 1. Equilibrium Potentials of  
Thorium in Chloride Melts (Soobshcheniye 1. Ravnovesnyye  
potentsialy toriya v khlordnykh rasplavakh)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 2, pp 251-258 (USSR)

ABSTRACT:

In the present paper the authors present the determination  
results of equilibrium potentials of thorium in equimolar  
mixture of sodium- and potassium chlorides both with and  
without thorium-chloride addition. The equilibrium potential  
of thorium in chloride melts which contained in the initial  
state 0.14 up to 78%  $\text{ThCl}_4$  was measured in the temperature  
range of 680 - 825° (Fig 2). In order to determine the change  
of the electromotive force with the varying concentration  
of  $\text{ThCl}_2$  in the melt, isothermal lines were drawn (Fig 3).

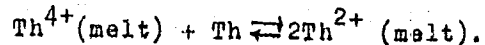
Card 1/3

The molten mixtures of sodium- and potassium chloride with  
thorium dichloride behave in all concentrations of  $\text{ThCl}_2$  like

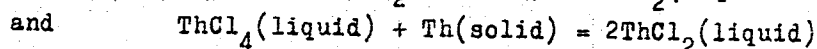
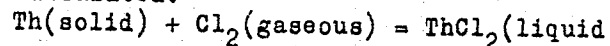
Equilibrium Potentials of Metals in Molten  
Electrolytes. Communication 1. Equilibrium Potentials  
of Thorium in Chloride Melts

SOV/62-59-2-10/40

ideal solutions. A dependence of the equilibrium potential of thorium on temperature and concentration was found. According to experimental data the oxidation-reduction potential of thorium in chloride melts as well as the equilibrium constant of the reaction was calculated:



In the temperature range of 680 - 825° the equilibrium constant varies from 51.1 up to 0.91. According to the temperature dependence of the electromotive force of galvanic elements with the melt containing thorium dichloride the quantities of the decomposition voltage of the molten  $\text{ThCl}_2$  and the variation of the isobaric potential for the following reactions were calculated:



The stationary potential of thorium in the equimolar mixture  $\text{KCl} + \text{NaCl}$  at 700 - 842° was determined (Fig 4). There are

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Equilibrium Potentials of Metals in Molten  
Electrolytes. Communication 1. Equilibrium Potentials  
of Thorium in Chloride Melts

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4 figures and 12 references, 9 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR (Ural Branch of the  
Academy of Sciences, USSR)

SUBMITTED: March 18, 1957

Card 3/3

68172

5(4) 5.4600

AUTHORS: Pal'guyev, S. F., Karpachev, S. V., Yushina, L. D. SOV/20-129-6-39/69

TITLE: An Electrochemical Chain With a Solid Electrolyte<sup>1</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6, pp 1339-1342 (USSR)

ABSTRACT: The authors investigated the temperature dependence of the electromotive force of the chain  $\text{Ag}/\text{AgBr}_{\text{solid}}/\text{Br}_2\text{C}$  in the region  $25-421^\circ$ . The electrochemical cell consisted of pressed silver bromide, to the one end of which a silver wire and to the other a carbon rod is attached. The entire cell was in a bromine atmosphere. Figure 1 gives the measured emf of the cell in dependence on temperature. The values between  $110$  and  $421^\circ$  lie on a straight line, for which an empirical equation is set up. Extrapolation to the melting point  $434^\circ$  of the  $\text{AgBr}$  gives an emf of  $0.8033$  v, which is in good agreement with the values given in reference 5 for liquid  $\text{AgBr}$  ( $0.8056$  v), confirms the correctness of measurements, and points out that in solid  $\text{AgBr}$  electric conductivity near melting point has ionic character. The occurrence of electron conductivity in a bromine atmosphere is proven by the fact that the ion transfer number

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68172

An Electrochemical Chain With a Solid Electrolyte SOV/20-129-6-39/69

for  $\text{Ag}^+$  at  $20^\circ$  was between 0.03 and 0.05, and at  $93^\circ$  between 0.06 and 0.11, whereas that for  $\text{Br}^-$  was zero. On the basis of the thermodynamics of irreversible processes the concentration gradient of Br dissolved in solid AgBr and, thus, the gradient of the holes was calculated and the transfer number of the holes was found to be zero for the temperature interval of from 100 to  $434^\circ$ . The authors thank Academician A. N. Frumkin for the evaluation of their work. There are 1 figure and 8 references, 1 of which is Soviet.

ASSOCIATION: Institut elektrokhemii Ural'skogo filiala Akademii nauk SSSR  
(Institute of Electrochemistry of the Ural Branch of the  
Academy of Sciences, USSR)

PRESENTED: July 16, 1959, by A. N. Frumkin, Academician

SUBMITTED: July 15, 1959

Card 2/2

PAL'GUYEV, S.F.; KARPACHEV, S.V.; YUSHINA, L.D.

Problem of measuring the decomposition voltage of solid  
electrolyte solutions. Trudy Inst,elektrokhim.UFAN SSSR  
no.1:105-110 '60.

(MIRA 15:2)

(Solutions, Solid)  
(Electromotive force)

S/081/62/000/018/019/059  
B226/B186

AUTHORS: Smirnov, M. V., Yushina, L. D., Loginov, N. A.

TITLE: The corrosion of titanium in saline melts

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 305, abstract  
18I152 (Tr. In-ta elektrokhemii. Ural'skiy fil. AN SSSR, no. 2,  
1961, 135 - 143)

TEXT: The corrosion rate of Ti in saline melts of different compositions is studied as a function of the temperature, atmosphere and purity of the metal. Anode polarization curves of Ti are plotted for various corrosion rate conditions. The electrochemical nature of the corrosion of metallic Ti in molten saline media is established. [Abstracter's note: Complete translation.]

Card 1/1

S/137/62/000/008/015/065  
A006/A101

AUTHORS: Pal'guyev, S. F., Yushina, L. D., Ovchinnikov, Yu. M.

TITLE: Investigating oxide sintering by the electric-conductivity method

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 45, abstract 86309  
("Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR", 1961, no. 2,  
193 - 197)

TEXT: The authors studied sintering of  $\text{CeO}_2$  with admixtures of  $\text{BeO}$  (5 mol. %),  $\text{MgO}$  (10 mol. %),  $\text{CaO}$  (15 mol. %) and  $\text{SrO}$  (9 mol. %). Changes in the electric resistivity were determined as functions of the composition, time of holding, and sintering temperature. "Electric resistivity versus sintering time" curves were plotted. The electric resistivity of the specimens (solid solutions) increases in the sintering process. The end of sintering was fixed when constant electric resistivity was established. Specimens of 20 mm in diameter, 12 - 15 mm high, were pressed from a thoroughly crushed oxide mixture (roasted at  $1,200^\circ\text{C}$ ) at  $1,000 \text{ kg/cm}^2$  pressure. To measure electric resistivity Pt-wires were pressed into the specimens; their ends were connected with an a-c bridge. Sintering was con-

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Investigating oxide sintering by...

S/137/62/000/008/015/065  
A006/A101

ducted in a Silit furnace at 1,200, 1,350, 1,450 and 1,550°C for 1 - 15 hours. Linear shrinkage values of the specimens are in agreement with changes in the electric resistivity. It was established that at 1,200 - 1,350°C  $\text{CeO}_2 + \text{SrO}$  mixtures are most rapidly sintered, and  $\text{CeO}_2 + \text{BeO}$  mixtures at 1,450 - 1,550°C. The relative sintering rate of mixtures with additions of  $\text{CaO}$  and  $\text{MgO}$  is approximately the same at all temperatures investigated. It is shown that the measurement of electric resistivity can be used as a sensitive method for investigating sintering of oxide ceramic specimens. Hypotheses to explain the mechanism of the (diffusion) process are given.

I. Brokhin

[Abstracter's note: Complete translation]

Card 2/2

24,7700

S/631/61/000/002/012/013  
I003/I203

AUTHORS: Pal'guyev, S. F., Yushina, L. D., and Ovchinnikov, Yu. M.

TITLE: Investigation of the sintering of oxides by the electric conductivity method

SOURCE: Akademiya nauk SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy, no. 2, 1961.  
Elektrokhimiya rasplavlennykh solevykh i tverdykh elektrolitov. 193-197

TEXT: A method for measuring the electric conductivity to determine the temperature at which the process of sintering commences if a liquid phase is formed was successfully used by Soviet scientists, and it was interesting to find out whether this method is applicable to the investigation of sintering of oxides when there is no liquid phase. Samples of mixtures of cerium dioxide with 5 mole % BeO, 10 mole % MgO, 15 mole % CaO, or 9 mole % SrO were investigated. After the completion of the sintering process the electric resistance of all the oxide mixtures investigated reaches a constant value. This is a sensitive method for the investigation of sintering processes. There are 5 figures.

✓  
B

Card 1/1

89573

S/076/61/035/002/007/015  
B124/B201

262520

AUTHORS: Yushina, L. D., Pal'guyev, S. F., and Karpachev, S. V.

TITLE: Study of electrochemical cells with solid electrolytes.  
I. Temperature dependence of the electromotive force of  
the cell  $\text{Ag} | \text{AgBr(s)} | \text{Br}_2, \text{C}$

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 342 - 349

TEXT: In the course of the work under consideration the authors measured the emf of the cell mentioned in the title in the range from room temperature to  $421^\circ\text{C}$ . The best results were obtained with a U-shaped glass tube, into whose one bend, which served as the cell proper, gaseous bromine was introduced and drawn off on the electrolyte surface. The contact with the bromine electrode in the tube was brought about by a soldered platinum wire. The bromine electrode used was a rodlet of spectrally pure carbon and the electrolyte a cylinder pressed from AgBr. The emf of the cell was measured with a high-resistance potentiometer of the type NN78-1 (PPTV-1), equipped with an M-91/A (M-91/A) galvanometer as a zero

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S/076/61/035/002/007/015

B124/B201

Study of electrochemical cells ...

instrument. The measuring accuracy was  $\pm 0.1$  mv at temperatures over  $110^{\circ}\text{C}$ , and about  $\pm 1.0$  mv at lower temperatures. Measurement results at different temperatures are illustrated in Fig. 1. In the temperature range from  $110$  to  $421^{\circ}\text{C}$  the points established experimentally were upon a straight line, whose equation was derived empirically with the aid of the least squares method:  $E = (1.1518 - 0.493 \cdot 10^{-3}T) \pm 0.0017 \text{ v (1)}$ ; at temperatures lower than  $110^{\circ}\text{C}$  the points established experimentally were not on a straight line. According to Ref. 7 (E. J. Salstrom, J. H. Hildebrand, J. Amer. Chem. Soc. 52, 4650, 1930), the emf of the cell with liquid AgBr amounts to  $0.8056 \text{ v}$  at  $434^{\circ}\text{C}$ , while the one according to Eq. (1) is  $0.8033 \text{ v}$ . By thermodynamic calculations made on the basis of data by A. F. Kapustinskiy (Ref. 8: "Termicheskiye konstanty neorganicheskikh veshchestv" (thermal constants of inorganic substances) M. - L., 1949)  $0.9904 \text{ v}$  was found for the emf at  $25^{\circ}\text{C}$ , while  $1.0049 \text{ v}$  was obtained from Eq. (1). These data prove that there exists practically no

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S/076/61/035/002/007/015  
B124/B201

Study of electrochemical cells ...

electron conductivity in AgBr in the temperature range from 420 to 100°C. To find out whether the electrical conductivity of solid AgBr was of an electronic nature, the authors measured the transfer numbers of the ions in solid AgBr in bromine (vapor pressure = 168 mm Hg) at room temperature and 93°C, the above described device being used for this purpose also. The electrolyte plates used were pressed by a special equipment between the carbon electrodes. The electrolysis current at 20°C was 0.5 to 1.2 ma and at 93°C it was 1.0 to 5.0 ma. The dissolution of bromine in solid AgBr causes an electron conductivity to appear. The electron conductivity arising in solid AgBr in connection with the bromine dissolution is caused by the motion of positively charged holes in the electric field. Ag- and Br ions and positively charged holes were found in solid AgBr. The mean value of the hole-transfer number is calculated from equation

$$t_o = \left( \frac{\mu_{Br}^{Ag}}{\mu_{Br}^{Ag} - \mu_{Br}^{Br}} \right) t_o \quad (11) \quad \text{(where } \mu_{Br} \text{ denotes the potential of atomic bromine in bromine vapors around the Br-electrode, } \mu_{Br}^{Ag} \text{ and } \mu_{Br}^{Br} \text{ the chemical potential of atomic bromine, dissolved in the crystal around the}$$

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89573

S/076/61/035/002/007/015  
B124/B201

Study of electrochemical cells ...

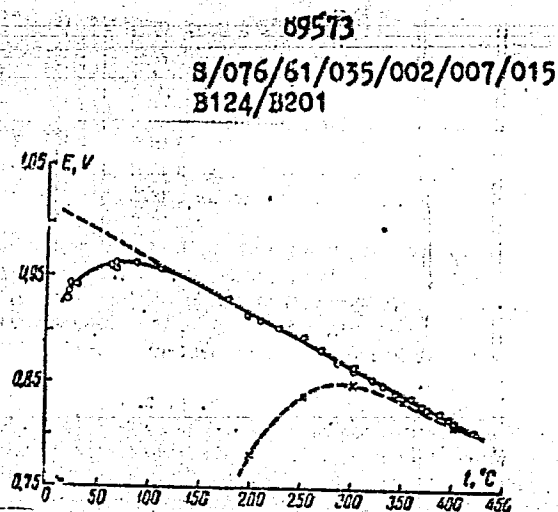
Ag- and Br-electrode, respectively;  $t_0$  is proportional to the concentration of atomic bromine dissolved in AgBr:  $t_0 = k c_{Br}$ . The relation  $t_0 = [k(c_{Br}^{Br} - c_{Br}^{Ag})] / [\ln(c_{Br}^{Br}/c_{Br}^{Ag})]$ . The relation  $t_0 \approx t'_0 / \ln(c_{Br}^{Br}/c_{Br}^{Ag})$  (12) is derived, where  $t'_0$  is the hole-transfer number in AgBr saturated with bromine at a bromine vapor pressure of 170 mm Hg, and  $c_{Br}^{Br}$  is the concentration of dissolved bromine in the immediate neighborhood of the Br electrode;  $c_{Br}^{Br} \gg c_{Br}^{Ag}$ . It may be stated in this connection that if the solid salt saturated with a metalloid practically exhibits only an electron conductivity, this will not become manifest at very low concentrations of dissolved solid metalloid salt near the metal electrode when measuring the emf; the same holds for dissolution in a solid metal salt. There are 1 figure and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. A reference to English language publications reads as follows: D. L. Hildebrand, W. R. Kramer, R. A. Mac Donald, D. R. Still, J. Amer. Chem. Soc., 80, 4129, 1958.

ASSOCIATION: Institut elektrokhemii, Sverdlovsk  
Card 4/5 (Institute of Electrochemistry, Sverdlovsk)

Study of electrochemical cells ...

SUBMITTED: May 30, 1959

Legend to Fig. 1: Temperature dependence of the  $\text{Ag}|\text{AgBr}(\text{sol})|\text{Br}_2, \text{C}$  cell;  
1) data obtained from the present work; 2) data calculated on the basis of paper Ref. 3: C. Wagner, Z. phys. Chem., 32, 447, 1936.



Температурная зависимость цепи  $\text{Ag}|\text{AgBr}(\text{тв})|\text{Br}_2, \text{C}$ :  
1 — данные настоящей работы; 2 — данные, рассчитанные на основании работы [3]

Card 5/5

PAL'GUYEV, S.F.; YUSHINA, L.D.

Transfer numbers in the solid oxides of beryllium, magnesium,  
and calcium. Trudy Inst. elektrokhim. UFAH SSSR no.3:149-154  
'62. (MIRA 16:6)

(Metallic oxides—Electric properties)  
(Ions—Migration and velocity)

YUSHINA, L.D.; PAL'GUYEV, S.F.

Transfer number in the system.

CeO<sub>2</sub> - ReO, CeO<sub>2</sub> - MgO, CeO<sub>2</sub> - CaO, and CeO<sub>2</sub> - SrO. Trudy  
Inst. elektrokhim. UFAN SSSR no. 4:91-95 '63. (MIRA 17:6)

NEUYMIN, A.D.; YUSHINA, L.D.; OVCHINNIKOV, Yu.M.; PAL'GUYEV, S.F.

Nature of the conductance of solid solutions  $\text{Bi}_2\text{O}_3 - \text{SrO}$ .  
Trudy Inst. elektrokhim. UFAN SSSR no. 4:111-115 '63.

(MIRA 17:6)

L 38501-65 EPF(c)/EPF(n)-2/EPF/EPH(j)/EWA(c)/EWT(1)/EWT(m)/EWO(m)/EWP(s)/T/EWT(s)/  
EPF(m)/EPF(l) Pr-H/Pr-h/Pu-h LJP(c) 22/1D/JG/GS  
5/0000/63/000/000/0118/0134

ACCESSION NR. AT5G07729

ACCESSION NR. AT5007729

AUTHOR: Pal'guyev, S. F.; Neuymin, A. D.; Volchenkova, Z. S.; Yushina, L. I. 12+1

high temperatures

AUTHOR: Pal'guyev, S. N.; Nezhdanov, A. I.  
 TITLE: Electrical conductivity of highly refractory oxides at high temperatures

TITLE: Electrical conductivity of highly silicic acid  
SOURCE: AN SSSR, Institut khimii silikatov. Silikaty i oksidy v khimii vysokikh temperatur (Silicates and oxides in high-temperature chemistry). Moscow, 1963, 118-134  
118-134

118-134

TOPIC TAGS. metal oxide, refractory oxide, oxide conductivity, high temperature conductivity, rare earth oxide

conductivity, rare earth oxide

ABSTRACT: The electrical conductivity of pure oxides and their mixtures was investigated. The pure oxides were, (a) the dioxides of zirconium, thorium, and cerium; (b) the oxides of beryllium, magnesium, calcium, and strontium; and (c) the oxides of yttrium, lanthanum, and neodymium. In all these groups, the temperature dependence of the electrical conductivity was determined and plotted on graphs. The oxide mixtures consisted of (a) systems of oxides based on zirconium dioxide, the oxide mixtures consisted of (a) systems of oxides based on zirconium dioxide, the oxide mixtures consisted of (a) systems of oxides based on zirconium dioxide

dependence of the electrical conductivity was determined. The oxide mixtures consisted of (a) systems of oxides based on zirconium dioxide ( $ZrO_2$ -BeO,  $ZrO_2$ -MgO,  $ZrO_2$ -CaO,  $ZrO_2$ -SrO,  $ZrO_2$ -BaO), (b) systems based on thorium dioxide ( $ThO_2$ -BeO,  $ThO_2$ -MgO,  $ThO_2$ -CaO,  $ThO_2$ -SrO,  $ThO_2$ -BaO), (c) systems based on cerium dioxide ( $CeO_2$ -BeO,  $CeO_2$ -MgO,  $CeO_2$ -CaO,  $CeO_2$ -SrO,  $CeO_2$ -BaO), and (d) the systems  $CeO_2$ -ZrO<sub>2</sub> and  $(0.75CeO_2 \cdot 0.25ZrO_2)$ -CaO. In all these mixtures, the thermals of the electrical conductivity at 1000°C were plotted. The experimental results lead the authors to the conclusion that the electrical conductivity of solid oxides is sensitive to many of their other properties, such as the tendency to react with one another and with the components of the gas phase and the tendency to be reduced. The conductivity also depends on the nature of the phases present. Orig. art. has: 7 figures and 1 formula.

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638507-66

ACCESSION NR: AT5007729

cerium dioxide ( $CeO_2$ -BeO,  $CeO_2$ -MgO,  $CeO_2$ -CaO,  $CeO_2$ -SrO,  $CeO_2$ -BaO), and (d) the systems  $CeO_2$ -ZrO<sub>2</sub> and  $(0.75CeO_2 \cdot 0.25ZrO_2)$ -CaO. In all these mixtures, the thermals of the electrical conductivity at 1000°C were plotted. The experimental results lead the authors to the conclusion that the electrical conductivity of solid oxides is sensitive to many of their other properties, such as the tendency to react with one another and with the components of the gas phase and the tendency to be reduced. The conductivity also depends on the nature of the phases present. Orig. art. has: 7 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 0000063

ENCL: 00

SUB CODE: MT, I, E, M

NO REF SOV: 023

OTHER: 019

Card 2/2



L 32721-65 ENG(j)/EWP(w)/EWT(m)/EPF(e)/EWA(d)/EWP(t)/T/EPR/EWF(b) Pr-4/Ps-4  
LJP(c) 2D

ACCESSION NR: AT4048680

S/2631/64/000/005/0153/0161

AUTHOR: Yushina, L. D.; Pal'guyev, S. F.

TITLE: The nature of the electrical conductivity of mixed oxides in the bismuth oxide - lead oxide and bismuth oxide - molybdenum oxide systems

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii, Trudy, no. 5, 1964. Elektrokhiimiya rasplavlennyy kh solavy kh i tverdy kh elektrolitov (Electrochemistry of fused salt and solid electrolytes), 153-161

TOPIC TAGS: bismuth oxide, lead oxide, molybdenum oxide, oxygen ion mobility, ionic conductivity, electron conductivity, metal oxide conductivity, electromotive force method

ABSTRACT: A study was made of the nature of the electrical conductivity of pure and mixed solid bismuth, lead, and molybdenum oxides in relation to their composition and temperature. The electrical conductivity was measured by a method described in a previous paper (S. P. Pal'guyev and A. D. Neuymin, Trudy In-ta elektrokhimii UFAN SSSR, no. 2, Sverdlovsk, 183, 1958). The nature of the conductivity was studied by the electromotive force method. As shown by Figs. 1 and 2 of the En-

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ACCESSION NO: AT4048680

closure, the conductivity of both of these systems decreases sharply with decreasing temperature. At temperatures of 500-550°C,  $\text{Bi}_2\text{O}_3$ ,  $\text{PbO}$ , and  $\text{MoO}_3$  have only a small proportion of ionic conductivity (on the order of 10%). As a result of the reformation of the structure, additions of  $\text{PbO}$  and  $\text{MoO}_3$  greatly reduce the electron conductivity of the  $\text{Bi}_2\text{O}_3$ , correspondingly increasing the proportion of ionic conductivity. On the basis of the data on the structure of the mixed oxides  $0.1 \text{ PbO} \cdot 0.9 \text{ Bi}_2\text{O}_3$ ;  $0.3 \text{ PbO} \cdot 0.7 \text{ Bi}_2\text{O}_3$  and  $3 \text{ Bi}_2\text{O}_3 \cdot \text{MoO}_3$ , it is assumed that the ionic component of the conductivity of these compounds is related to the mobility of the oxygen ions. Orig. art. has: 4 figures, 1 table and 2 formulas.

ASSOCIATION: Institut elektrokhimii, Ural'skiy filial AN SSSR (Electrochemistry Institute, Ural' branch, AN SSSR)

SUBMITTED: 00

ENCL: 03

SUB CODE: IC

NO REF SOV: 008

OTHER: 008

Card 2/5

L 32721-65

ACCESSION No: AT404680

ENCLOSURE: 01

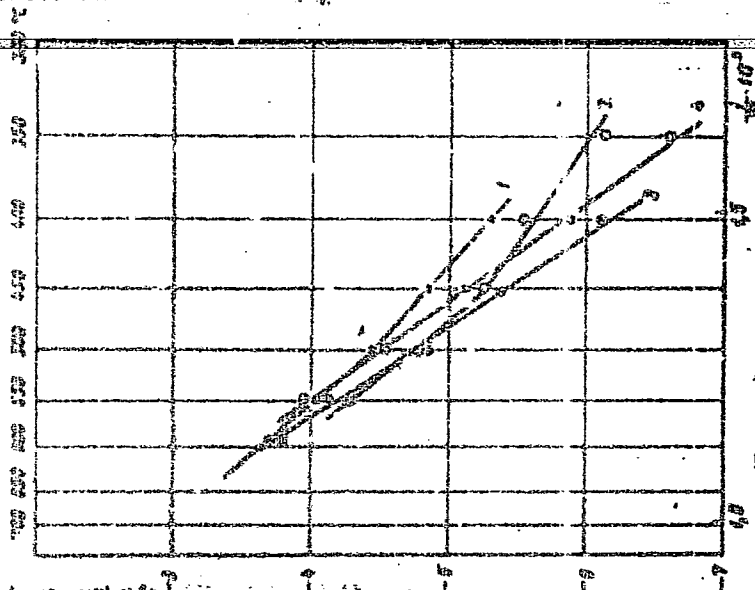


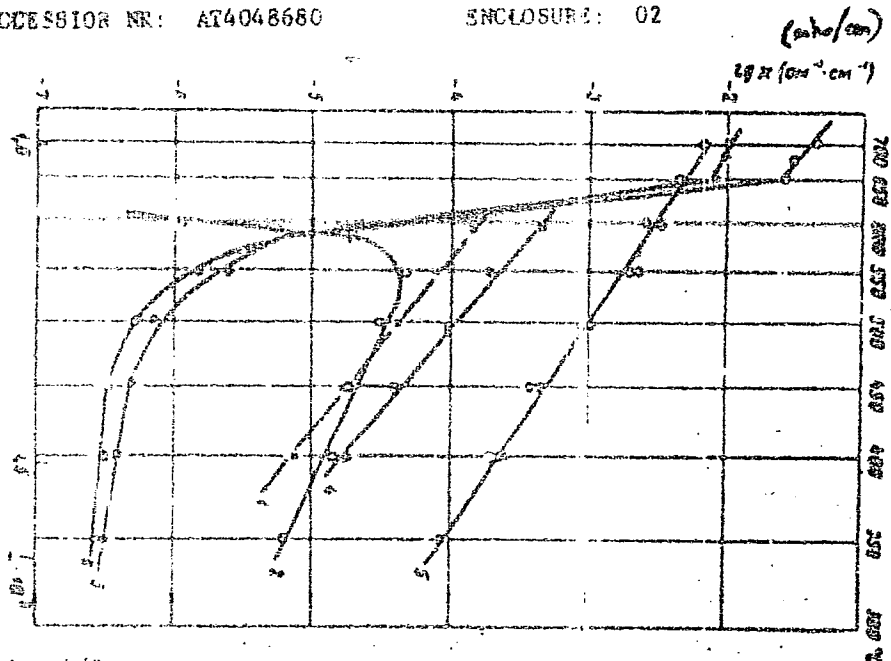
Figure 1. Temperature dependence of the ionic electron components of the electrical conductivity of specimens in the system  $\text{Bi}_2\text{O}_3\text{-PbO}$ : 1 and 2 - electron components of the electrical conductivity of the mixed oxides  $0.1 \text{ PbO} \cdot 0.9 \text{ Bi}_2\text{O}_3$  and  $0.3 \text{ PbO} \cdot 0.7 \text{ Bi}_2\text{O}_3$ , respectively; 3 and 4 - ionic components of the electrical conductivity of the same specimens.

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Card (20/100)

L 32721-65

ACCESSION NR: AT4048680

ENCLOSURE: 02



L 32721-65

ACCESSION NR: AT4048680

ENCLOSURE: 03

Figure 2. Temperature dependence of the ionic and electron components of the electrical conductivity of specimens in the system  $\text{Bi}_2\text{O}_3\text{-MoO}_3$ ; 1, 2 and 3 are the electron components of the electrical conductivity of the following mixed oxides: 1 -  $0.1 \text{ MoO}_3 \cdot 0.9 \text{ Bi}_2\text{O}_3$ ; 2 -  $0.3 \text{ MoO}_3 \cdot 0.7 \text{ Bi}_2\text{O}_3$ ; 3 -  $0.95 \text{ MoO}_3 \cdot 0.05 \text{ Bi}_2\text{O}_3$ ; 4, 5 and 6 are the ionic components of the electrical conductivity of the same specimens.

Card 5/5

YUSHINA, Lyudmila Vasil'yevna; ANDREYEVA, Ye.D., red.; AZOVKIN,  
N.G., tekhn. red.

[Wage organization and payment on collective farms] Orga-  
nizatsiia i oplata truda v kolkhozakh. Riazan', Riazanskoe  
knizhnoe izd-vo, 1962. 23 p. (MIRA 16:12)  
(Collective farms--Income distribution)

YUSHINA, Tamara Fedorovna

[Ninth Congress of Soviet Trade Unions] Deviatyi s"ezd sovetskikh  
profsoiuzov. Moskva, Izd-vo VTsSPS, 1958. 76 p. (MIRA 12:7)  
(Trade unions--Congresses)

YUSHINA, V., plotnik; NABATOVA, P., plotnik

Gauge for erecting trusses. Na stroi. Mosk. 1 no. 9:29 S '58.  
(MIRA 11:12)

(Trusses)



YUSHINA, V.M.

Pathogenesis of "salt sores" of the hands in workers of the fish products industry. Vest.derm. i ven. 31 no.1:49-50 Ja-F '57.

(MIRA 10:7)

1. Iz kafedry kozhnykh i venericheskikh bolezney Arkhangel'skogo meditsinskogo instituta.

(SKIN--DISEASES)

(FISHERY PRODUCTS--PRESERVATION--HYGIENIC ASPECTS)

YUSHINA, V.V.; NIKOLAYEV, L.A.

Interaction of methylene blue with amines. Zhur.fiz.khim. 37 no.10:  
2277-2281 0 '63. (MIRA 17:2)

1. Moskovskiy institut inzhenerov transporta.

Yushina, V. V.

76-10-28/34

AUTHOR: Yushina, V. V.

TITLE: The Catalytic Properties of Adsorbed Dyes. I.  
(Kataliticheskiye svoystva adsorbirovannykh krasiteley.I.)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 10,  
pp. 2357-2360 (USSR)

ABSTRACT:

The investigation results of the catalytic action of methylene and thionine in the reaction of the oxidation of pyrogallol and methol by oxygen are given and the cases of their adsorption activation are described. It is shown that the methylene and the thionine act as catalysers in the oxydation of "methol" and pyrogallol in a narrow  $p_H$ -interval. It is detected that the adsorption of the dyes on a starch made to paste and on dextrin increases considerably the oxidizing agent activity of the dye. It is shown that the catalytic action of the dyes is not connected with the reduction of the activation energy. The importance of the activating action of the polysaccharides in the processes of the inter-exchange which is connected with the transfer of

CARD 1/2

The Catalytic Properties of Adsorbed Dyes. I.

76-10-28/34

hydrogen is pointed out. There are 4 figures, 1 table,  
4 Slavic references.

ASSOCIATION: Institute for Railway Engineers. imeni I. V. Stalin,  
Moscow (Institut inzhenerov zheleznodorozhnogo transporta  
im. I. V. Stalina, Moskva).

SUBMITTED: November 12, 1956

AVAILABLE: Library of Congress

CARD 2/2

AUTHOR: Yushina, V. V. SOV, 156 58-1-24/46

TITLE: The Catalytic Properties of Dyes and the Models of the Bio-catalysts (Kataliticheskiye svoystva krasiteley i modeli biokatalizatorov)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 99 - 103 (USSR)

ABSTRACT: The dyes reversibly transformable into leucoforms may be obviously used as model catalysts which imitate the functions of the active dehydrase group. This type of catalysis can be specified in most general form by the following scheme:  

$$AH_2 + M = MH_2 + A; MH_2 + \frac{1}{2}O_2 = H_2O + M, AH_2 \text{ denotes the substance to be oxidized, } A \text{ the oxidation product (dehydration product), } M \text{ the dye, and } MH_2 \text{ its leucoform. Systems of this type may be considered as models of active dehydrase groups. The effective mechanism of the dehydrases is based upon a reversible transition of the active groups into a hydrated state. A catalyst which consists of a reversibly oxidizable dye (which is fixed on a high-molecular carrier - thus increasing the activity of the dye) may be considered as a more perfect}$$

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The Catalytic Properties of Dyes and the Models of the Biocatalysts SOV 156-58-1-24/46

dehydrase model than e.g. methylene blue or indigo carmine. The author investigated the influence of the adsorption on the catalytic activity of the two last mentioned dyes. In the present paper the characteristic features of an oxidation of hydrogen sulfide and p-phenylene diamine catalyzed by dyes are discussed. Table 1 shows that the reaction course is described by an equation of first order in the case of a decolorization of methylene blue in a  $H_2S$  solution. Table 2 shows similar experiments with indigo carmine. The reaction kinetics is expressed not quite exactly by an equation of first order. The value of the velocity constant shows an obvious tendency to decrease. The author tried to detect the indications of a chemical interaction between the cellulose and indigo carmine, since the adsorption of the latter to cellulose increases the oxidation activity of  $H_2S$ . The optical properties are changed here. They may be caused by the penetration of the dye molecules into the cavitations of the macromolecules. Furthermore protein-like carriers (casein, gelatin, and peptone) were tested. Casein activated the catalytic function of indigo carmine to a small, but

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The Catalytic Properties of Dyes and the Models of the Biocatalysts SOV/156-58-1-24/46

noticeable extent (Table 3). These experiments showed that protein-like carriers activate the oxidase function of indigo carmine to a much smaller extent than cellulose. Cellulose might be a specific activator for dyes of this type in consequence of its structure. It does, however, not influence the acceleration of the oxidation of the p-phenylene diamine. p-phenylene diamine itself activates in solid state without doubt the oxidizing function of indigo carmine. There are 2 figures, 2 tables, and 4 references, 2 of which are Soviet.

ASSOCIATION: Kafedra khimii Vsesoyuznogo zaochnogo instituta inzhenerov transporta (Chair of Chemistry of the All-Union Correspondence Institute of RR Engineers)

SUBMITTED: October 4, 1957

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The Catalytic Properties of Dyes and the Models of the Biocatalysts SOV/ -58-1-24/46

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5(

SOV/69-21-2-4/22

AUTHORS: Vasil'yev, S.S. and Yushina, V.V.

TITLE: The Stabilizing Effect of Silver Ions on Albumin (Stabiliziruyushcheye deystviye ionov serebra na al'bumin)

PERIODICAL: Kolloidnyy zhurnal, 1959, Nr 2, pp.148-150 (USSR)

ABSTRACT: This article deals with the effects of silver ions introduced into albumin solutions. After the adsorption of small quantities of silver, the stability of albumin solutions with regard to heating is increased. If larger quantities of silver are adsorbed, the ions produce a coagulating effect. Coagulation takes place, when 30 silver ions per albumin molecule have been adsorbed by the solution. There are 2 graphs and 3 references, 2 of which are German and 1 Soviet.

ASSOCIATION: Tekhnologicheskiy institut legkoy promyshlennosti, Moskva  
(Technological Institute of Light Industry, Moscow)

SUBMITTED: December 12, 1957

Card 1/1

YUSHINA, Vera Vasil'yevna; NEKHLYUDOVA, A.S., red.; RAKITIN, I.T., tekhn.  
red.

[Carbon and silicon] Ugl'erod i kremnii. Moskva, Izd-vo "Znanie,"  
1961. 35 p. (Narodnyi universitet kul'tury. Fakul'tet estestvenno-  
nauchnyi, no.11) (MIRA 14:10)  
(Carbon) (Silicon)

ANDREYEV, Sergey Vasil'yevich, doktor med. nauk, prof.; YUSHINA, Yu.G.,  
red.; STAROSTENKOVA, M.M., red.izd-va; RAKITIN, I.T., tekhn. red.

[New data on the heart and blood vessels] Novoe o serdtse i sosudakh.  
Moskva, Izd-vo "Znanie," 1961. 45 p. (Vsesoiuznoe obshchestvo po ras-  
prostraneniu politicheskikh i nauchnykh znani. Ser.8, Biologiya i me-  
ditsina, no.19) (MIRA 14:11)

(CARDIOVASCULAR SYSTEM--DISEASES)

YUSHINA, Z.Z.

Hammer grinder for malt. Spirt. prom. 25 no.6:33 '59.

(MIRA 12:12)

(Ryazan Province--Distilling industries)

(Grinding machines)

YUSHKA, A.A.

Communal and everyday consumption of electric power and  
electrical loads of the cities of the Lithuanian S.S.R.  
Trudy LIEI no.51:121-129. '64.

(MIRA 18:11)

MOTSKUS, I. B. (Kaunas); ALISHAUSKAS, A. V. (Kaunas); YUSHKA, F. P. (Kaunas)

Some aspects of the use of electronic computers for selecting  
the most economical constructional parameters. Zhur. vych.  
mat. i mat. fiz. 2 no.5:948-951 8-0 '62.

(MIRA 16:1)

(Programming(Electronic computers))

YUSHKA, F.P. [Juska, F.]

Evaluation of the effect of oscillations in the downstream level of hydroelectric power plants on the optimal distribution of active load in the power system. Trudy AN Lit. SSR. Ser. B no.3: 205-209 '64. (MIRA 18:5)

1. Institut energetiki i elektrotekhniki AN Litovskoy SSR.

L 39663-66 EWT(1)/EWT(m)/ETG(r)/ETG(m)/ETP(t) TJP(c) REF/ID/CS/DC-2 208+1  
 ACC NR: AT6001343 SOURCE CODE: UR/0000/65/000/000/0149/0156

AUTHOR: Matulenis, A. Yu.; Vishchakas, Yu. K.; Yushka, G. V.; Gal'vidis, H. H.

ORG: none

TITLE: Unipolar longitudinal photoconductivity of electrographic selenium films 27 1 6

SOURCE: AN AzerbSSR. Institut fiziki. Selen, tellur i ikh primeneniye (Selenium, tellurium and their utilization). Baku, AN AzerbSSR, 1965, 149-156

TOPIC TAGS: selenium, semiconductor conductivity, drift mobility, temperature dependence, metal physics

ABSTRACT: <sup>21, 44, 51</sup> Unipolar electrographic properties (higher initial potential or photo-sensitivity for charge of a single sign) of Se films were studied. The specific drift length ( $\mu r$ ) was related to these properties by the relation:

$$Y = \Delta i_+ / \Delta i_- = \mu_h \tau_h / \mu_e \tau_e,$$

where  $\Delta i_+$  is the photocurrent at the illuminated anode,  $\Delta i_-$  is the photocurrent at

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the illuminated cathode of the same electrode,  $\mu_e$ ,  $\mu_h$  are the mobilities of the electrons and vacancies, and  $\tau_e$ ,  $\tau_h$  are the respective lifetimes. A schematic of the apparatus used for measuring the relative photocurrents ( $Y$ ) is given. Amorphous and crystalline Se films of 0.8 to 1 mm thickness were used. This thickness was much greater than the drift length but much less than the reverse coefficient of saturation. For small voltages,  $Y$  increased linearly with voltage for the amorphous Se, while at higher voltages it saturated rapidly. The specific drift lengths of the carriers were calculated to be  $1.7 \cdot 10^{-11}$  m<sup>2</sup>/v (electrons) and  $2 \cdot 10^{-10}$  m<sup>2</sup>/v (vacancies). The effects of crystallization (hexagonal modification) were studied by comparing the spectral distribution of  $Y$  for both amorphous and hexagonal Se. The amorphous film had much higher values of  $Y$  at the lower wavelengths (0.4 to 0.6  $\mu$ ) but went through a transition at 0.7 $\mu$  and dropped below the hexagonal; the hexagonal had the opposite relationship: it rose with wavelength and saturated at 0.7 $\mu$ . A micrograph (1000x) is given of an initially amorphous film which was subjected to a temperature gradient (10°C on one face and 90°C on the other). The specimen was fractured at the interface of the amorphous-crystalline boundary. Further data are given for the dependence of the longitudinal photocurrent on the temperature of the vaporizing Se substrate. For temperatures below 85°C, the value of  $Y$  increased sharply due to weaker vacancy injection. An explanation of the results based on

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special distribution of electron charge and vacancy injection is given. The best sensitivity and lowest dark current were obtained at substrate temperatures of 85°C. However, impurities in the Se lowered crystallization and interfered with getting these optimal conditions. Orig. art. has: 5 figures, 2 tables, 5 formulas.

SUB CODE: 11, 20/ SUBM DATE: 10Mar65/ ORIG REF: 005/ OTH REF: 007

Card 3/3

PESENSON, A.Ye., inzh.; RYVKIN, A.L., inzh.; STEYKUNAS, R.I., inzh.;  
YUSHKA, R.I., inzh.

Special welding rectifier for the welding of thin-walled parts.  
Svar. proizv. no.2:32-34 F '65. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudovaniya (for Pesenson, Ryvkin). 2. Vili'nyusskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta elektrosvarochnogo oborudovaniya (for Steykunas, Yushka).

YUSHKAN, H.I., inzhener.

Obtaining curvilinear openings in die-cast machine parts. Lit.proizv.  
no.12:28-29 D '56. (MLRA 10:3)

(Die casting)

YUSHKAN, N. I.

Flasks for molds with drawbacks. Mashinostroitel' no. 12:23  
D '62. (MIRA 16:1)

(Foundries—Equipment and supplies)

YUSHKAN, N.I.

Painting of vertical molds. Lit. proizv. no.8:40 Ag '62.  
(MIRA 15:11)  
(Spray painting)

POLENOV, A. L. and YUSHKANTSEVA, S. I.

"Hypothalamo-Hypophyseal Neurosecretory Systems of White Mice under  
Conditions of Overloading of the Organism with Sugar Solutions." pp. 61

Institute of Cytology AS USSR Laboratory of Microscopy

II Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR. Tезисы Докладов  
(Second Scientific Conference of the Institute of Cytology of the Academy  
of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,634

POLENOV, A.L.; YUSHKANTSEVA, S.I.

Morphology and topography of supplementary Gomori-positive neurosecretory elements of the hypothalamic region in white mice. Dokl. AN SSSR 148 no.2:441-444 Ja '63. (MLRA 16:2)

1. Institut tsitologii AN SSSR i 1-y Leningradskiy meditsinskiy institut im. I.P. Pavlova. Predstavleno akademikom N.N. Anichkovym. (HYPOTHALAMUS)



L 46938-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6015492

(N)

SOURCE CODE: UR/0181/66/008/005/1616/1617

AUTHOR: Vishchakas, Yu. K.; Yushka, G. B.; Petravichus, A. D.; Matulenis, A. Yu.

ORG: Vil'nyus State University im. V. Kapsukas (Vil'nyusskiy gosudarstvennyy universitet)

TITLE: The kinetics of forward photocurrent limited by a spatial charge in amorphous selenium

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1616-1617

TOPIC TAGS: selenium, photoconductivity, current carrier, hole mobility

ABSTRACT: Amorphous Se with a specific resistivity of  $10^{10}$  ohm·m, a hole drift of  $>10^{-7}$  m<sup>2</sup>/v, a quantum yield of 0.1 to 1 (photon energy 2.5 to 3.0 ev), and a free-to-captured-holes ratio of  $>0.01$  was examined. The experimental equipment included a pulse light source (ISSh-15, ISSh-100-3), a monochromator, and an oscillograph (input impedance 10 kohm, and capacitance 50 picofarad). Photocurrents were generated by constant voltage and by intermittent light. The density of the maximum photocurrent depends on the voltage, according to

$$j_0 = 1.21 \cdot \frac{9}{8} e e_a \mu \frac{U^2}{d^3}$$

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ACC NR: AP6015492

where  $\epsilon$  is the relative dielectric constant,  $\epsilon_0$  is the dielectric constant of the vacuum,  $\mu$  is mobility,  $U$  is voltage, and  $d$  is the specimen thickness in the direction of the electric field. A possible break in the curve and further linear increase at high voltages indicate that the divergence of the hole current reaches the generation tempo of the carriers. The determined quantum yield agrees with the results obtained by other authors. The calculated curves correspond to a hole mobility  $\mu = 1.4 \cdot 10^{-5} \text{ m}^2/\text{v} \cdot \text{sec}$ . Trapping and recombination in the specimens are insignificant. Orig. art. has: 2 figures, 2 formulas.

SUB CODE: 20/

SUBM DATE: 20Sep65/

ORIG REF: 001/

OTH REF: 005

Card 2/2

*Yushkar', Ye.K.*

AUTHOR: Yushkar', Ye.K.

117-3-12/28

TITLE: Cutting with Mineral-ceramic Tipped Tools (Rabota raztsami s mineralokeramicheskimi plastinkami)

PERIODICAL: Mashinostroitel', 1958, # 3, p 28-29 (USSR)

ABSTRACT: Cutters, tipped with mineral-ceramic plates "ИМ-332" produced by the Moscow Hard Alloy Combine (Moskovskiy kombinat tverdykh splavov) have been in use for several years at the Dmitrov Machine Tool Plant (Dmitrovskiy stankostroitel'nyy zavod) for cutting gears and similar work.

The article contains practical recommendations, based on experience, concerning the optimum facet angles and widths of the mineral-ceramic tip-plates, the optimum end relief angle and top radius, and the chip breaker. A single-point cutter with mechanically attached tip is described and illustrated.

There are 2 figures.

AVAILABLE: Library of Congress

Card 1/1

AUTHOR: Yushkar', Ye.K.

SOV-117-58-10-19/35

TITLE: Speed Threading of Blind Nuts (Skorostnoye narezaniye rez'by v glukhikh gaykakh)

PERIODICAL: Mashinostroitel', 1958, Nr 10, pp 25-26 (USSR)

ABSTRACT: Fast threading of blind nuts at 600 to 1,000 revolutions per minute is done by the 1A62 turning lathe, the mandrel of which revolves irreversibly in a backward direction. Threading goes lefthanded from bottom to top with insertion and release of the nut of the lead screw. At 100 rev/min of the lead screw, the nut is not always properly connected. Therefore a thread indicator (Photo 1) has been designed which can be easily attached to the lathe. It is used in connection with a special chuck (Figure 2). There is 1 photo and 1 diagram.

1. Screw threads--Production

Card 1/1

YUSHKAVETS, M. K.

Tuberculosis in farm animals and poultry. Minsk, Dzierzhaunae vydavetstva BSSR,  
1952. 93 p.

DANILOV, L.; YUSHKEVICH, A.

Repair of electric propulsion engines in repair shops on ships.  
Mor.flot 21 no.5:18-20 My '61. (MIRA 14:5)

1. Starshiy inzh.-mekhanik mekhaniko-sudovoy sluzhby Murmanskogo  
articheskogo parokhodstva (for Danilov). 2. Nachal'nik elektrogruppy  
mekhaniko-sudovoy sluzhby Murmanskogo arkticheskogo morskogo  
parokhodstva (for Yushkevich).

(Ship propulsion, Electric)  
(Marine diesel engines--Maintenance and repair)

200  
Yuškevič, A. A. On limit theorems connected with the concept of entropy of Markov chains. Uspehi Matem. Nauk (N.S.) 8, no. 5(57), 177-180 (1953). (Russian)

Let  $x_1, x_2, \dots$  be the random variables of a stationary Markov chain with finitely many states, and transition matrix  $[p_{ij}]$ . It is supposed that there is positive probability of going from any state to any other state. The author then proves two results used in information theory. He does not observe that the results can be based on direct applications of the law of large numbers and central limit theorem to sums of the form  $\sum_{i=1}^n p_{x_i, x_{i+1}}$ . J. L. Doob (Urbana, Ill.).

10-28-54 LL

DYNKIN, Ye.B. (Moskva); YUSHKEVICH, A.A. [Yushkevich, A.].

Strong Markov processes [with summary in English]. Teor.  
veroiat. i ee prim. no.1:149-155 '56. (MLRA 9:12)

(Probabilities)



YUSHKEVICH, A. A., Cand Phys-Math Sci -- (diss) "On Strictly  
Markov Processes." Mos, 1957. 7 pp (Mos State Univ im M. V.  
Lomonosov, Mechanomathematical Faculty), 100 copies (KL, 48-57,  
104)

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YUSHKEVICH, A. A.

SOV/52-2-4-7/7

A Summary of Papers Presented at the Sessions of the Scientific Research Seminar on the Theory of Probabilities. Moscow, Feb-May 1957  
Teoriya Veroyatnostey i yeye Primeneniya, 1957, v. 2, No. 4, pp. 478-83

and  $x = L$ . If this condition is not fulfilled, then there is a unique solution of Eq.1 taking given values at  $t = 0$  and  $x = L$ .

Yaglom, A.M., Generalized locally homogeneous stochastic fields. The contents of this paper have been published in Vol.2, Nr.3 of this journal. Seregin, L.V., Continuity conditions with unit probability of strictly Markov processes. The results are to be published in this journal. Yushkevich, A.A., Strong Markov processes. The results were published in Vol.2, Nr.2 of this journal. Tikhomirov, V., On  $\varepsilon$ -entropy for certain classes of analytic functions. The contents of this report have been published in Doklady Akademii Nauk, Vol.117, Nr.2, 1957, p.191. Urbanik, K., (Wroslaw), Generalised distributions at a point of generalised stochastic processes. The generalised stochastic processes are of finite order, i.e. are generalised derivatives of continuous processes. It is proved that the distribution at a point of a generalised process is uniquely defined. Girsanov, I.V., Strongly

Card 2/11

YUSHKEVICH, A.A. (Moskva).

Strong Markov processes [with summary in English]. Teor. veroiat. i  
ee prim. 2 no.2:187-213 '57. (MLRA 10:11)  
(Probabilities)

